



P53821C

5 August 1999

Applicant: Richard G. Hyatt Jr.

Serial No.: 08/720,070 (CPA application) Examiner: BOUCHER, D.

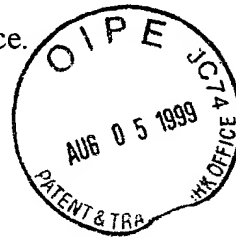
Filed: 27 September 1996

Art Unit: 3627

For: *ELECTROMECHANICAL CYLINDER PLUG*

**Document(s) filed:**

- ☐ SUPPLEMENTAL AMENDMENT (responsive to Paper No. 20 dated 8 February 1999)
- ☐ Fee Transmittal and check No. 33413 (\$306.00) for extra claim fee
- ☐ PTO-1449 and one (1) reference.



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# FEE TRANSMITTAL

Patent fees are subject to annual revision on October 1.  
These are the fees effective October 1, 1997.  
Small Entity payments must be supported by a small entity statement,  
otherwise large entity fees must be paid. See Forms PTO/SB/09-12.  
See 37 C.F.R. §§1.27 and 1.28.

Comple. Known	
Application Number	08/720,070
Filing Date	27 September 1996
First Named Inventor	RICHARD G. HYATT JR.
Examiner Name	BOUCHER, D.
Group/Art Unit	3627
Attorney Docket No.	P53821C

TOTAL AMOUNT OF PAYMENT (\$)306.00

## METHOD OF PAYMENT (check one)

1. ☐ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: 02-4943  
Deposit Account Number: \_\_\_\_\_

☐ Charge Any Additional Fee Required Under 37 C.F.R. §1.16 and 1.17. ☐ Charge the Issue Fee Set in 37 C.F.R. §1.18 at the Mailing of the Notice of Allowance.

## 2. ☒ Payment Enclosed(CK#33413)

☒ Check ☐ Money Order ☐ Other

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
101	760	201	380	Utility filing fee	\$
106	310	206	155	Design filing fee	\$
107	480	207	240	Plant filing fee	\$
108	760	208	380	Reissue filing fee	\$
114	150	214	75	Provisional filing fee	\$

SUBTOTAL (1) (\$)0.00

### 2. EXTRA CLAIM FEES

	Extra Claims	Fee from below	Fee Paid
Total claims -20** = 21 x 9			= 189
Independent Claims -3** = 3 x 39			= 117

Multiple Dependent

\*\* or number previously paid, if greater; For Reissues, see below

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
103	18	203	9	Claims in excess of 20
102	78	202	39	Independent claims in excess of 3
104	260	204	130	Multiple dependent claim, if not paid
109	78	209	39	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)306.00

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
105	130	205	65	Surcharge-late filing fee or oath	\$
127	50	227	25	Surcharge-late provisional filing fee or cover sheet	\$
139	130	139	130	Non-English specification	\$
147	2,520	147	2,520	For filing a request for reexamination	\$
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	\$
113	1,840 *	113	1,840*	Requesting publication of SIR after Examiner action	\$
115	110	215	55	Extension for reply within first month	\$
116	380	216	190	Extension for reply within second month	\$
117	870	217	435	Extension for reply within third month	\$
118	1,360	218	680	Extension for reply within fourth month	\$
128	1,850	228	925	Extension for reply within fifth month.	\$
119	300	219	150	Notice of Appeal	\$
120	300	220	150	Filing a brief in support of an appeal	\$
121	260	221	130	Request for oral hearing	\$
138	1,510	138	1,510	Petition to institute a public use proceeding	\$
140	110	240	55	Petition to revive - unavoidable	\$
141	1,210	241	605	Petition to revive - unintentional	\$
142	1,210	242	605	Utility issue fee (or reissue)	\$
143	430	243	215	Design issue fee	\$
144	580	244	290	Plant issue fee	\$
122	130	122	130	Petitions to the Commissioner	\$
123	50	123	50	Petitions related to provisional applications	\$
126	240	126	240	Submission of Information Disclosure Statement	\$
581	40	581	40	Recording each patent assignment per property (Times number of properties)	\$
146	760	246	380	Filing a submission after final rejection (37 C.F.R. §1.129(a))	\$
149	760	249	380	For each additional invention to be examined (37 C.F.R. §1.129(b))	\$

Other Fee (specify) \_\_\_\_\_

Other Fee (specify) \_\_\_\_\_

\*\* Reduced by Basic Filing Fee Paid

SUBTOTAL (3) \$0.00

## SUBMITTED BY

## Complete (if applicable)

Typed or Printed Name

Robert E. Bushnell, Esq.

Reg. Number

27,774

Signature

*Robert E. Bushnell*

Date

5 August 1999

Deposit Account User ID

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ROBERT E. BUSHNELL

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PAY TO THE ORDER OF U.S. Department of Treasury

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Assistant Commissioner  
of Patents  
Washington, D.C. 20231  
Box: PTO PROSECUTION

MEMO

S.N. 08/720,070 (CPA) SMALL ENTITY

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Richard, G. Hyatt Jr.

Serial No.: 08/720,070 (CPA application) Examiner: BOUCHER, D.

Filed: 27 September 1996 Art Unit: 3627

For: ELECTROMECHANICAL CYLINDER PLUG

**AMENDMENT**

Assistant Commissioner  
for Patents  
Washington, D.C. 20231

Sir:

Entry of the following Supplemental Amendment, re-consideration and re-examination are respectfully requested.

Folio: P53821C  
Date: 08/05/99  
I.D.: REB/HZ/na

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IN THE CLAIMS

Please amend Claim 25, and add Claims 39-59, as follows:

25. (Twice Amended) A lock, comprising:

a shell containing a hollow recess defining a longitudinal axis and an interior cylindrical surface;

a cylinder plug rotatable around said longitudinal axis while resident within said hollow recess;

a bar interposed between said shell and said cylinder plug to reciprocate generally along a radial plane between a first position engaging both said shell and said plug while obstructing rotation of said cylinder plug within said recess, and a second position accommodating said rotation, said cylinder plug comprising:

a first base and a second base separated by an axial length of said cylinder plug from said first base, said second base bearing means for supporting a cam; and

an electrical operator borne by said cylinder plug and rotatable with said plug, said electrical operator being electrically operable to respond to a control signal by moving between a first orientation and a second and different orientation providing obstruction of said bar.

--39. The lock of claim 25, further comprising:

a basic circuit generating said control signal in response to a comparison between a code set within said logic circuit and a data signal applied to said logic circuit;

a conductor provided by said plug, conveying said data signal to said logic circuit;

and

said electrical operator moving between said second orientation and said first orientation in response to said control signal.

--40. The lock of claim 39, with said conductor comprising an electrical conductor.

--41. The lock of claim 25, further comprising:

a logic circuit borne by said plug, generating said control signal in response to a comparison between a code set within said logic circuit and a data signal applied to said logic circuit;

a conductor borne by said plug, conveying said data signal to said logic circuit; and

said electrical operator moving between said second orientation and said first orientation in response to said control signal.

--42. The lock of claim 41, with said conductor comprising an electrical conductor.

--43. A lock, comprising:

a cylinder containing a hollow interior recess defining a longitudinal axis, and bearing a slot within said recess; and

a plug rotatable from a rest orientation around said longitudinal axis while resident within said hollow recess relative to said cylinder; and

an elongate member positioned between said cylinder and plug while extending into said slot, and providing simultaneous engagement of said cylinder and said plug while said plug remains in said rest orientation;

said plug comprising:

a first base bearing an orifice spaced-apart from and separated by a mass of said plug from said keyway;

a second base separated by an axial length of said plug from said first base, said second base disposed to support a cam, said mass being penetrated by a radially oriented aperture;

an exterior surface extending between said first base and said second base;

a conductor having a terminal exposed to an exterior of said first base through said orifice;

an electronic logic circuit comprising a memory storing a code, said circuit being borne by said plug and coupled to receive data signals via said conductor, said circuit generating control signals in dependence upon a comparison between said code and information borne by said data signal; and

an electrical operator mounted within said aperture, said operator having a movable member travelling in dependence upon said control signals between a first position relative to said exterior surface maintaining said simultaneous engagement and a second and different position relative to said exterior surface accommodating movement between said plug and said cylinder.

--44. The lock of claim 43, further comprising:

said elongate member comprising a sidebar positioned between said first base and said second base to reciprocate between a first location while providing said simultaneous engagement, and a second location releasing said plug for rotation relative to said cylinder; and

said movable member being oriented within said plug to move relative to said plug to accommodate reciprocation of said sidebar relative to said plug and rotation of said plug from said rest orientation relative to the cylinder when a key while inserted into said plug generates said data signals representing information having a selected said comparison with said code, and obstructing said reciprocation absent said selected comparison.

--45. The lock of claim 43, further comprising:

said elongate member comprising an arm arcuately engaging said cylinder and a detent extending from said arm and through said slot; and

said movable member being oriented within said plug to move relative to said plug to accommodate passage of said detent relative to said movable member during rotation of said plug from said rest orientation relative to the cylinder when a key while inserted into said plug generates said data signals representing information having a selected said correspondence with said code, and obstructing said rotation of said plug from said rest orientation by engaging said detent absent said selected correspondence.

--46. A lock, comprising:



a shell containing a hollow recess defining a longitudinal axis and an interior cylindrical surface;

a cylinder plug rotatable around said longitudinal axis while resident within said hollow recess;

a bar borne by said plug and rotatable with said plug relative to said shell, said bar being interposed between said shell and said cylinder plug to reciprocate generally along a radial plane between a first position engaging both said shell and said cylinder plug while obstructing rotation of said cylinder plug within said recess, and a second position accommodating said rotation, said cylinder plug comprising:

a first base and a second base separated by an axial length of said plug from said first base, said second base bearing means for supporting a cam; and

an electrical operator being electrically operable to respond to an electrical control signal by moving obstructing movement of said bar between said first position and said second position in response to a first state of said control signal and accommodating said movement of said bar in response to a second and different state of said control signal.

--47. The lock of claim 46, further comprised of said operator directly obstructing movement of said bar between said first position and said second position absent said control signal.

--48. The lock of claim 46, further comprised of:

a logic circuit borne by said cylinder plug generating said control signal in response

to a comparison between a code set within said logic circuit and a data signal applied to said logic circuit; and

said electrical operator moving to accommodate said movement by said bar in response to said control signal.

--49. The lock of claim 46, further comprised of a locking mechanism borne by said cylinder plug, said cylinder plug being perforated by an aperture admitting reciprocal travel of a key relative to said locking mechanism, and said locking mechanism obstructing movement of said cylinder plug relative to said shell absent the key exhibiting a selected relation with said locking mechanism.

--50. The lock of claim 46, further comprised of a plurality of electrical conductors borne by said lock to engage a circuit in a key inserted into said plug.

--51. The lock of claim 46, further comprised of a power source energizing said electric operator to move during said second and different state of said control signal, positioned to rotate with said plug relative to said shell.

--52. The lock of claim 51, further comprised of said plug containing a keyway, and said power source being mounted on a key insertable into said keyway.

--53. The lock of claim 46, further comprised of a network of plugs including said cylinder plug, and a switching device controlling operation of said network and said state of said control signal.

--54. The lock of claim 46, further comprised of:

said plug containing a keyway;

a memory borne by said cylinder plug and storing a code; and

a logic circuit comprising a memory storing a code, said circuit being borne by said plug and generating said control signal in dependence upon correspondence between said code and data borne by a key insertable within said keyway.

--55. The lock of claim 53, further comprised of:

said plug containing a keyway;

a memory borne by said cylinder plug and storing a code; and

a logic circuit comprising a memory storing a code, said circuit being borne by said plug and generating said control signal in dependence upon said switching device and correspondence between said code and data borne by a key insertable within said keyway.

--56. A lock, comprising:

a shell containing a hollow recess defining a longitudinal axis and an interior cylindrical surface;

a plug rotatable around said longitudinal axis while resident within said hollow recess;

an elongate member interposed between said shell and said plug to travel generally along a radial direction between a first position engaging both said shell and said plug while obstructing rotation of said plug within said recess, and a second position accommodating said rotation;

said plug comprising:

a first base perforated by an aperture, and a second base separated by an axial length of said plug from said first base, said second base bearing means for supporting a cam;

a logic circuit borne by said plug and rotatable with said plug, conveying said data signal between said aperture to said logic circuit; and

An electrical operator responding to said control signals by moving between a first orientation obstructing said travel and relative operable movement between said shell and said plug while said electrical operator is contained wholly within said plug, and a second and different orientation accommodating said travel and said relative operable movement between said shell and said plug.

--57. The lock of claim 16, further comprising said distal member bearing a mass engaging said detent and blocking said rotation while said distal member is in said first position, and a groove through said mass accommodating relative passage between said distal member relative to said

detent while said distal member is in said second position.

--58. The lock of claim 16, further comprising said distal member bearing a mass exhibiting a first height accommodating relative passage between said distal member relative to said detent while said distal member is in said second position, and a second and greater height engaging and blocking said rotation while said distal member is in said first position.

--59. The lock of claim 16, further comprising said distal member bearing a mass having a periphery engaging said detent and blocking said rotation while said distal member is in said first position, and a central variation in said mass relative to said periphery accommodating relative passage between said distal member and said detent while said distal member is in said second position.

REMARKS

Claims 1-59 are now pending: claim 21 is amended while claims 39 through 59 are newly added in order to further define the various features of the elected embodiments.

Claim 25 is amended to define the "plug" with the art recognized term of "cylinder plug". Claim 25 remains patentably distinguishable over the art for the reasons set forth in Applicant's earlier filed response. Dependent claims 39 through 41 further define Applicant's lock, with the logic circuit and electrical conductor either provided by, or borne by Applicant's plug, that was discussed in Applicant's earlier filed response.

Independent claim 43, together with dependent claims 44 and 45, define alternatively to claim 14, the structure of Applicant's lock including the conductor, logic circuit and operator that, in combination, distinguish claim 14 from the prior art. Claim 44 defines the sidebar embodiment while claim 45 defines the arm that engages the cylinder.

Independent claims 46 and 56, together with claims 47-53 depending their own, define the structure alternative to claim 25, with the bar borne by the plug while rotating with the plug relative to the show, and the operator obstructing movement of the bar. The combination of Aston U.S. 5,351,042 modified according to Clarkson U.S. 4,789,859 provides a bar and electrical core outside of Applicant's cylinder plug. This negates the advantageous ability to implement Applicant's lock

in a compacted structure, as well as the ability to retro- fit a lock using Applicant's structure.

It should also be noticed that other art of record such as that represented by DiVito U.S. 5,423,198 uses an operator outside of the cylinder plug, that acts upon a pin tumbler set within a plug.

In view of these and other distinctions, as well as for the reasons set forth in Applicant's earlier filed responses, newly presented claims 39-59 are deemed to be patentably distinguishable and allowable over the art.

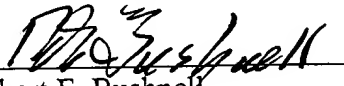
The Examiner's attention is invited to the recently discovered Thordmark U.S. 5,542,274 patent for a cylinder lock, issued 6 August 1996. The embodiments disclosed by Thordmark '274 are readily distinguishable from the pending claims, for the reasons set forth in the earlier paragraphs.

In view of the foregoing amendments and remarks, all claims are deemed to be in condition for allowance. Should questions remain unresolved however, or should there be outstanding formalities, the Examiner is requested to telephone Applicant's undersigned attorney.

A fee of \$306.00 (**SMALL ENTITY**) is incurred by the addition of twenty-one (21) dependent claims in excess of 20 and three (3) independent claims in excess of 3. Applicant's check drawn to the order of Commissioner accompanies this Response. Should the check become lost,

should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

Respectfully submitted,

  
Robert E. Bushnell,  
Attorney for the Applicant  
Registration No.: 27,774

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Folio: P53821C  
Date: 8/5/99  
I.D.: REB/na